

The MACDONALD COLLEGE *Journal*⁺

L. I. • No. 5

JANUARY 1941



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EDITORIAL COMMENT

We extend to all our readers the very best of New Year's wishes. As we enter this New Year, let us say with Mr. Roosevelt, "We have no excuse for defeatism. We have every good reason for hope—hope for peace, hope for the defence of civilization, and for the building of a better civilization in the future."

Three Short Courses

Macdonald College starts off the new year with three short courses which will begin on February 3rd and will last six weeks. One is on Farm Mechanics and will include an intensive study of gas engines, blacksmithing, shop-work, electricity for the farm, etc. The second is a course in Farm Management and Organization and will consist of discussions and demonstrations on farm planning, co-operation, livestock, poultry and crop production, etc. The third course, for women only, is concerned with a study of our school system, with particular reference to the rural school.

There is just time to get your application in. Write for a form either to the College or to the Youth Training Plan, Quebec. There is no cost to students under 30 years of age who are accepted, but since only a certain number can be accommodated we suggest that you apply at once. A few older students can be accepted if they are willing to pay their own board.

We are also hoping to put on a "refresher" course for agonomes later in the winter. More information will be given about this when plans are completed.

The Radio Institutes

The new series of broadcasts over the C.B.C. on farm problems will begin on January 21st and will represent an absolutely new technique in popular education. If you have not already done so we suggest that you get in touch with the Radio Institute in your district and prepare to follow these broadcasts with your neighbours. You will find them interesting and helpful. If there is no Institute in your community the Adult Education Service in Lennoxville will gladly help you to organize one. If you are a member of an Institute, has your group registered yet with the Service?

New Apple Trees for Old

Canadian apple growers face a problem in marketing their products and it is likely that unprofitable varieties will have to be removed from our orchards. By the method of "frameworking" described by Dr. Hilton mature apple trees of unwanted varieties can be changed over to different varieties and bear a profitable crop the year after being grafted. This method has been tried in Canada, but has not yet been used on any large scale. We will be glad to furnish more detailed information to any of our readers who may be interested, or to demonstrate the method in our own orchard.

Education for Citizenship

The organization of a Canadian Council of Education for Citizenship marks an important forward step towards the strengthening of our understanding and appreciation of the principles of the democratic way of life. A note about the new Council and its purpose is presented in this issue.

THE ORGANIZATION OF THE CANADIAN COUNCIL OF EDUCATION FOR CITIZENSHIP

Through the initiative of the Hon. C. H. Blakeney, Minister of Education for New Brunswick, a group of people representing the various Departments of Education in Canada, together with representatives of other organizations interested in or devoted to the cause of education, assembled at Ottawa on November 21st. Out of this conference grew the organization of the Canadian Council of Education for Citizenship, the aims of which may be briefly stated as follows:

(a) To stimulate in the minds of all Canadians a greater appreciation of the meaning and implications of Canadian democracy as a way of life to the end that they may better understand the issues involved in the present struggle and thereby make their maximum contribution to the war effort of the nation.

(b) To assist all Canadians in reaching an understanding of the problems which may arise from time to time relating to post-war reconstruction.

The central aim of the Council is to strengthen and revivify throughout Canada, and in all its citizens of every age, an understanding of their democratic heritage and a determination to exercise and develop it by every means. To this end, first, the Council desires to act in the closest co-operation with the Ministry of National War Services and any other department of Government that it may usefully serve, by lending its aid to the general education of Canadian citizens in the practice of principles of democracy, by offering suggestions, reporting through its representatives and the Government bodies and organiza-

tions for which they stand, on conditions peculiar to the various parts and social groups of Canada, and by standing ready to act in an advisory capacity at any time. The Council, through the Executive, will urge the creation in each province, of Committees, under the direction of the Provincial Departments of Education, through which such educational work (instruction, distribution of reading material, films, publicizing of radio broadcasts, speeches, etc.) as those provincial Committees decide may further the aims of the Council. It will be the purpose of the Council through its Executive to facilitate so far as it can the work of these Committees, and to co-ordinate it with the work of the Bureau of Public Information and other federal government services of the kind.

The membership of the Council will consist of representatives of these bodies taking part in the organization of the original Council, together with others, who may from time to time be invited to join.

Following the organization of the Council an Executive Committee was elected as follows: Dr. Duncan McArthur (Chairman), Dr. W. H. Brittain, Dr. Victor Doré, Mrs. W. J. Lindal, Dr. T. W. L. McDermott, Mr. C. N. Crutchfield, Dr. E. A. Corbett, Mr. C. H. Lash (ad hoc). Hon. C. H. Blakeney was elected Chairman of the Council. At a meeting of the foregoing executive held at the close of the session, it was agreed to hold monthly meetings and plans were laid for the carrying on of future activities including the appointment of a permanent Secretary.

THE CANADIAN FARM PROBLEMS SERIES

A set of pamphlets has been printed for the use of discussion club leaders, covering some of the outstanding problems facing our farmers. The topics discussed are shown below. These pamphlets are also to be used in following the series of broadcasts to be heard over the C.B.C. starting this month, and are to be supplied on demand to the "Listening Groups" which are being organized in several provinces.

They are written in a novel form that has proved successful in actual operation. A short introduction outlines the subject. Then come several "local questions" for discussion by the group. Some general questions come next and these are discussed "pro" and "con", as a start toward discussion of the whole subject. A list of references at the end gives factual material and furnishes more topics for argument.

The titles of the pamphlets are:

1. Are there too many farmers?
2. Should Canada restrict the farming of sub-marginal land?
3. Will increased production benefit the farmer?
4. Should Canada encourage land settlement of immigrants?
5. Can we improve our taxation system?
6. How far will improved farm management methods help?
7. What does the farmer need in the way of credit?
8. Can the economic position of the farmer be improved through the medium of a government supported policy of research, experimentation and extension work?
9. What can we hope to accomplish through Fairs and Exhibitions?
10. Are government grading regulations and marketing services of value to the farmer?
11. What are the conditions necessary for the efficient marketing of farm products?
12. What can the farmer gain through organization?
13. To what extent can co-operative organizations solve the economic problems of the farmer?
14. Is any form of governmental control or regulation over the marketing of farm products necessary, desirable, or practicable for Canada?
15. If some form of regulation is adopted, what should it be?
16. What shall we do about it?

The complete set may be obtained for \$1.00 by writing to Macdonald College, Que.

The Next Step

by W. H. Brittain

FOR years we have been living in a sick world. Our economy has been out of joint. We are like the medical practitioner who, through lack of experience or because medical science has not advanced sufficiently far for him to deal with causes, must be content for the moment with merely relieving symptoms. Because of a generation of neglect we must deal with things as they are and make the best of our situation. But at least let us treat symptoms with intelligence and, while treating surface symptoms, labour unremittingly to increase the strength of the patient, nor abate for a moment our research into the fundamental causes of the malady. In other words, let us not hesitate to call in the specialist, for we are, after all, only general practitioners, and it is only the ignorant or opinionated general practitioner who scorns the advice of the specialist. Surely our dread of really expert opinion in this country is carried rather too far, and men with highly specialized knowledge are rarely given the opportunity to develop a sense of responsibility that comes from the exercise of authority. Too often they fail to develop their full powers for lack of that exercise, and their activities are confined to sharpening refined tools for others who, when the time comes, usually prefer to use the crow bar or the bludgeon. Nor can we free from blame those people of superior training and education who are content to leave to others the task of correcting the errors of our democratic system, who are content to exercise their intellect in a vacuum, who forget that intellect and reason are not the sole activating forces in human conduct and who overlook the fact that the power of emotion is still a powerful influence in human affairs.

We suffer today from the haphazard nature of our development, from our lack of foresight and courage in dealing with basic problems, from our innate dread of anything in the nature of *planning*; but it is only through self-discipline, thought, study and planning that we can attain the internal strength necessary to face these problems. A while ago we heard a great deal of talk regarding the problem of marginal land. For the most part we shied away from the difficulty of this problem after a few feeble and futile efforts. But there is a more fundamental problem even than marginal farms, and that is the problem of marginal citizens. It has been said that, in some parts of the country, our people were in danger of assuming the status of "poor whites". We might, without unduly stretching the truth, go even further than that. In some parts of the country we are *manufacturing* poor whites, through our neglect, our ineptitude and our indifference to the human factor, which is an essential element in any satisfactory and permanent solution of our problem. People from other countries are sometimes appalled at the waste they see in this country—waste of its natural resources,

waste of business opportunities, waste of opportunities for service. There is one even more disastrous source of waste, and that is the waste of human material, due to our tendency to half do things and then drop them.

In our educational efforts we often bring a young man along to a certain point, give him a certain amount of training, fill him with enthusiasm, and then drop him into the great ocean of apathy, indifference and inertia that constitutes his environment, where he assumes the mental attitude of the "backslider" after a religious revival. Until we follow a more enlightened policy of selecting from among those attending our regular courses, our short courses, our youth training courses, etc., those with real leadership qualities, and developing and using them, our work will be only partially effective. In our programme of popular education we might well develop a scheme for the more effective use of those who live and work among their neighbours, and not leave the entire task to professional educationists. I am convinced that this can be done more effectively and at less cost than many more ambitious plans now in operation.

We have all sorts of organization in the country and many men of ability and vision engaged in educational and extension work. But too often they become involved in routine and departmental policies, until organization becomes more important than function and they lose the human touch. I am not depreciating for one moment the unselfish and effective work of many of our agricultural field men. Their efforts are deserving only of praise. They have, for the most part, done splendidly the task they have been given to do. Sometimes, however, some of them fall a victim to a system. In the past there have been at least a few who could not see beyond the organization of another calf club—valuable as such things are in themselves—or they spent their energy in mere "stunts". Much criticism has lately been focused on the direction of our extension work. It has been said that it lacks any basic philosophy, that it has been characterized by lack of imagination, by complacency, by the absence of intelligent planning, by too stereotyped methods and a tendency to develop "ruts". There has been an inclination to forget that the farmer is a citizen as well as a farmer and that he is interested in the processes of government as well as in production and marketing problems, important as these undoubtedly are.

The war has uncovered weaknesses in our democratic system, all of which are not of a military character. These we must set ourselves to correct! We have so far been playing with the problem of popular education. In considering the problem of education for our rural districts we should realize that the basis for any improvement is

(Continued on page 11)

The Changing Agricultural World

by W. J. Tawse

AGRICULTURE is passing through a momentous period in its history necessitating far-reaching changes and adjustments. Techniques in production and distribution have changed greatly in the past 20 years. Our mode of living is changing. We are developing new appetites as our knowledge of nutrition increases. Work has become a matter of operating machines which do a large part of the heavy manual labor, reducing the need for heavy meals. The women and many men now watch their weight.

Streamlining diets are contracting the farmer's market for certain staple crops. Potatoes are an example, as the consumption per person has fallen from about 4 bushels to 2.8 bushels in the last 10 years. Smaller families have reduced the demand for large roasts hence the beef cattle raisers have turned to the production of baby beef which weigh scarcely 1000 pounds and the once champion steers of over 1500 pounds are no longer in demand. Turkeys are now actually bred to produce medium sized birds and the fat hog has been changed to a long narrow pig for Wiltshire sides to win a larger share of the British bacon market.

Canadian farmers under the new bacon agreement in the first 42 weeks of this year have marketed 3,792,000 hogs, an increase of 45 per cent over the corresponding period in 1939. This effort to supply the quota of 5,600,000 pounds per week and the domestic demand has tended to reduce beef production which has resulted in higher returns to the producers.

Hybrid corn yields exceed the open pollinated by 15 to 30 per cent and some are more resistant to disease and ripen earlier. Wheat, the great national problem of this country because of the present restricted outlets and the bumper yield of over 547 million bushels this past season owes part of the increased bushels per acre to the plant-breeder and the entomologist. The plant breeders have developed the new rust resistant varieties of Renown, Apex, Regent and Thatcher in sufficient quantity to supply the rust areas. In 1935, 85 million bushels were lost due to rust in Western Canada. The control of grasshoppers has effected a saving of over 30 million dollars in crops. Many of these changes have come about almost unknown to the average citizen; but they have radically altered the farming on this continent. Farm production per worker has increased 41 per cent in 20 years.

THE EFFECT OF MECHANIZATION

Technological changes in agriculture have kept pace with industry, with the result that labor requirements for agricultural production have been reduced. Mechanization of agriculture has swept across this continent. The combine harvested less than 5 per cent of the wheat crop in 1920 and many will remember the call of the prairie provinces for harvest help in the old days. In 1940 fully 50 per cent of the crop was combined. The "baby combine" cutting a



A small combine at work near Montreal.

five or six foot swath was introduced in 1935. The "midget" cutting a 40 inch swath and operated by one man appeared in fields close to Montreal this summer. An idea of the wide acceptance of the new tractors may be gained from recent figures for the United States. There were 1,626,000 farm tractors operating in 1939, which was double the number in 1930. Probably 60 per cent of U. S. farms large enough are using tractors instead of horses. Tractor sales in Canada amounted to 13,420 machines in 1939 and the total will be greater for this year. It is interesting to note the remarkable increase in the number equipped with air-tire wheels — in 1938, 41 per cent, in 1939, 60.75 per cent, and a further increase this year. Each tractor displaces $2\frac{1}{2}$ horses and each horse displaced releases $4\frac{1}{2}$ acres for other crops formerly required to produce its food. The United States Bureau of Agricultural Economics reports 10 million horses and mules have been displaced releasing 45 million acres of land. The volume of production is increasing, but so are costs. It is estimated that the mechanization of the farm has displaced 300,000 farm workers in the last 10 years. This will be another factor in the unemployment problem to be faced at the conclusion of the war.

MORE VEGETABLES USED

The amazing increase in the consumption of fresh vegetables which has increased from 133 pounds per capita in the twenties to 164 in recent years has changed many general farms into vegetable gardens. The use of canned vegetables has increased from an average of 14 pounds in the twenties to 22 pounds per capita in the past 5 years, an increase of 50 per cent. These figures do not include cabbage for kraut, cucumbers for pickles or that portion of the tomato crop used for soups and sauces. Tomato juice has had a phenomenal rise as it was practically unheard of prior to 1929, but it has averaged $2\frac{1}{2}$ pounds per capita during the past 5 years.

The general increase in the consumption of fresh vegetables has taken in practically all of them. Lettuce increased from 7.8 pounds in the twenties to 13.8 pounds per capita during the years 1935-39; carrots from 3.4 to 8.4 pounds due in part to the discovery that they contain vitamin A, so essential to better eyesight for night driving; celery from 5.6 pounds to 9.1 pounds because its appetizing flavor and crispness add zest to the meal. The lowly Swede turnip is now washed, waxed and labelled, becoming again one of the leading vegetables. Production here in Quebec has expanded rapidly. The acreage has increased from about 23 thousand in the twenties to over 40 thousand in recent years. This promises to increase still further as the national income rises, especially for canned vegetables.

THE APPLE SITUATION

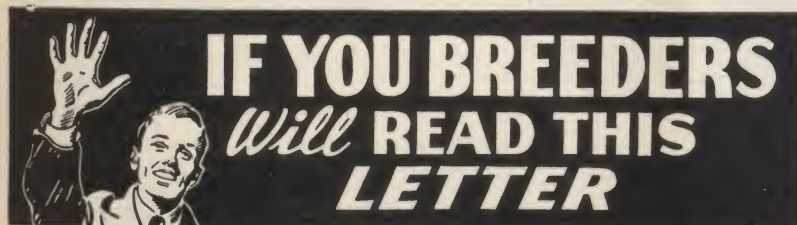
The changing agricultural picture includes fruit. Canada's apple crop in 1939 reached over 1700 million bushels. It averaged about 11 million bushels in the early twenties. The British Imperial preference initiated in 1932 at Ottawa enabled Canada to replace the United States as the principal source of supplies. Both Canada and Australia have increased their plantings to supply the United Kingdom. The production in this province has risen from about 300,000 bushels in the twenties to over 1 million in 1939. There are over 70,000 trees planted in the new orchard area around Frelighsburg. Heavy plantings have been made in Ontario during the past ten years. Due to the development of production here in Canada the United States is being forced to

reduce their apple acreage. It is difficult to predict what may happen to the extensive orchards planted in England since the last war. They bore a record crop of 25 million bushels in 1939. This was roughly three times the average annual production and if maintained will reduce the exports of cooking apples from this country in the future.

Apple juice produced under the new flash pasteurized process has won overnight favour with the aid of the national apple advertising campaign of the Dominion Department of Agriculture. There were 20,000 cases packed in 1939. Last year 300,000 were put up and sold out by June. There are 10 plants operating in Canada this year, and these provide an outlet for the lower grades of apples which should not reach the market. A new plant has been opened at Rougemont last fall with the assistance of the Quebec Department of Agriculture.

The apple must now meet the competition of the orange for a share of the fruit dollar. The world production of oranges has increased from 133 million boxes to over 200 million in the past 20 years. Most of this increase has been in the United States, Brazil, Palestine and Italy. The American crop has grown from 32 million boxes in the twenties to over 75 million annually in recent years. Canada's imports have increased from about 1 million boxes to around 5 million. Even more striking has been the United States production of grapefruit which has increased from 6 million in the twenties to over 43 million boxes in recent crop years.

(Continued on page 19)



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Oct. 30, 1940.

Oka Agricultural Institute, La Trappe, Oka, Que.
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Last winter we had in our herd 9 pure bred Ayrshire cows and heifers which we had received from a number of large stock farms in this province. The cows in this group had the previous year been forced for high production and this was considered the reason why their owners had been unsuccessful in getting them safely in calf again.

Each animal was mated when it came in heat for three consecutive periods and in no case did a single cow catch.

We had read with interest many of your advertisements citing specific cases in which breeding troubles had been overcome by the use of Rex Wheat Germ Oil and so decided to treat all animals with your product as directed. This treatment was continued until the next period of heat when the cows were again mated.

After treatment with your product, we succeeded in getting 7 cows out of the 9 in calf. The remaining two were slaughtered and

their ovaries examined, whereby we found that in both cases the ovaries were badly diseased.

You can understand from the above facts why we are so well satisfied with Rex Wheat Germ Oil and recommend its use to all livestock breeders.

(Signed) BROTHER M. RODOLPHE.

If you are having breeding troubles you cannot afford to overlook Rex Wheat Germ Oil. Rex is a special extracted, cold-processed, pure, unadulterated oil. It is definitely stabilized, will not go rancid and its valuable Vitamin "E" content is guaranteed for one year.

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REX Cold-processed, extracted oil is the cheapest insurance against breeding failures the cattlemen can buy.



One of the first of the nine cows to produce her calf.



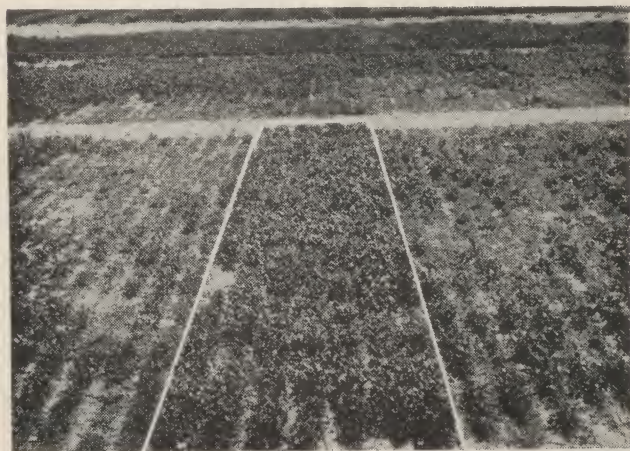
AGRICULTURE

Articles on problems of the farm

A Program Of Crop Improvement

by R. Summerby

"HOW can we improve our field crops?" is a question that may be raised by anyone interested in Agriculture. The answer is that it can be done in one of two ways, namely, by giving the crops better conditions under which to grow, and by breeding, or the creation of new varieties. By the former method, continuous effort must be made year after year if production is to be maintained at a high level. In the breeding of crops one seeks to obtain varieties that are inherently superior in one or more characteristics or qualities that are of practical importance of a permanent nature. Maximum yield and quality, however, can be attained only by the use of both methods.



A hardy variety of red clover with non-hardy varieties on either side.

The Agronomy Department of Macdonald College has carried on extensive investigations to discover the best cultural practices to be followed in producing crops. Some attention is still being given to this method of increasing profits. The major effort, however, is now being given to the improvement of crops by breeding.

The large number of varieties of some of our crops already available might lead one to believe that we already have what is needed. This, however, is far from being the case. In all crops there are still serious weaknesses. Yield, quality, strength of straw, time of maturity, hardiness, disease resistance, and combinations of these are desirable qualities, in which our present varieties still fall short of what is required.

The creation by breeding of new varieties that are different from those already in existence, is relatively a

simple matter. To produce new ones that have all the superior qualities of older ones and none of their weaknesses, is not so easy. It requires the skilful choice of parent material and careful painstaking selection, breeding, and testing over several years. Further, it involves carrying extensive material and many trials order to sift out the good from the poor and the best from the good. For these reasons, the policy of the Agronomy department has been to concentrate attention on the more important farm crops only. The aim of this article is to outline the aims and to indicate the nature of the program that is being carried on.

Breeding Grain Crops

The oat crop occupies nearly one-third of the area of tillable land in eastern Canada, hence its improvement is of immense practical importance. As grown in the province it has several serious weaknesses. It is inclined to lodge on rich soils and in general where conditions are favorable for growth. Further, it is sometimes seriously affected by several diseases that prevent the crop from developing normally, and there is much room for improvement in yield and quality. The oat breeding program is therefore directed to developing varieties that have strong straw, resistance to the important diseases, good yield, and quality. Since the conditions in some sections require early maturing varieties, and later maturing ones do better in other areas, both early and late types combined with the desirable qualities mentioned are sought.

The barley crop occupies a relatively small acreage in eastern Canada, but its yield and its feeding value justify an increased acreage. Very distinct increases have been made in recent years and it seems likely that this trend will continue. As with oats, its main weaknesses are a tendency to lodge, and susceptibility to disease in some years and situations. In addition, the presence of barbed awns make it a most disagreeable crop to handle. A variety with strength of straw, freedom from disease, good yield and quality, and a smooth awn is therefore one of the aims in breeding barley. However, since smooth-awned varieties are not considered satisfactory for malting purposes, a second aim is to obtain one that is suitable for malting and is also satisfactory in other regards.

Breeding of Hay Crops

Red Clover is the most commonly grown legume hay

in Quebec, being sown in greater or less proportions with timothy and alsike, in almost all mixtures for hay, or hay followed by pasture. It is, however, a somewhat uncertain crop because of its tendency to winterkill when conditions are severe. The development of a hardy variety would be of enormous value to farmers. It is believed also that there is need for two types of clover, namely, one that develops early and gives two crops, the second growth being useful for hay, seed or pasture; and a later type which would be ready for cutting at the same time as the timothy crop. The use of two such types of clover on a farm would better allow of both being cut at the proper time for hay; in so doing it would much improve the quality of hay produced, and also permit greater use of aftermath for pastures. A good yielding, hardy variety of each of these types is therefore the object of our red clover breeding program.

Timothy

The timothy crop is quite generally used in all hay and pasture mixtures on tillable land. Being a hardy perennial, it is often left down for several years. Along with clover, it occupies almost twice as much of the tillable land as all other crops put together. The importance of this crop and its extensive culture justify considerable effort towards its improvement. As with clover, if early and late types were available on a farm it would facilitate the harvesting of the hay crop much more nearly at the best stage for high quality and would allow of a better use of the aftermath. Hardy, high yielding varieties, resistant to disease, of both early and late types are therefore sought.

Root Breeding

Although mangels and swede turnips are not grown in Quebec extensively, where corn cannot be grown their high yield and value for feeding purposes warrant some attention being given to their improvement. Of the two, swedes are more widely adopted and are more commonly



The Laurentian variety. Note the uniformity of type and smoothness.

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grown. The value of root crop varieties depends largely on their dry matter content. High yield of dry matter is therefore an important objective in breeding. Along with this, good keeping quality and freedom from diseases are emphasized. With swedes, in addition to these qualities, uniformity of type and suitability for use as human food, are important aims.

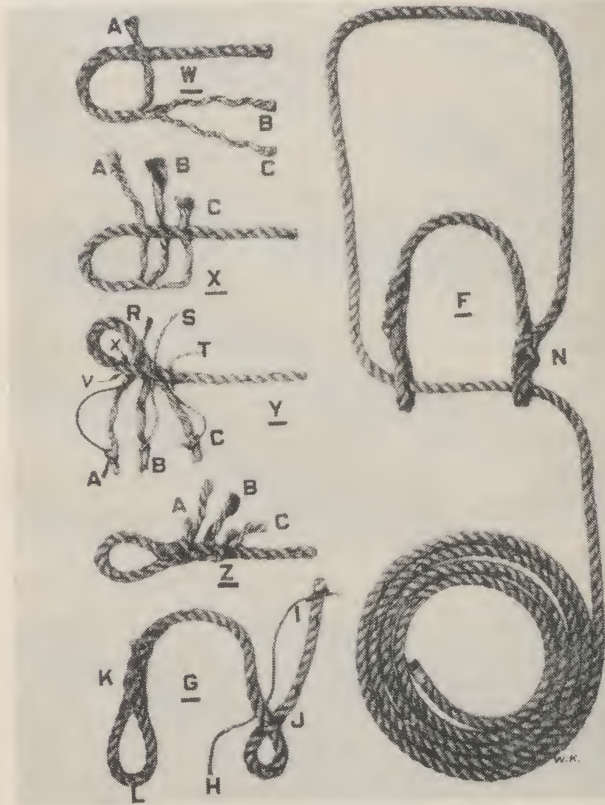
Corn Breeding

Corn is not grown on as large an acreage as any of the crops mentioned above. However, in sections where it can be grown it is a very valuable silage crop, and it can be profitably used as grain in some situations. In Quebec, it is limited by length of the growing season, temperature and drainage. With suitable varieties its profitable culture can be extended considerably. For silage, varieties are needed that have strong stalks and that will reach the early glazing stage before there is danger of frost. As the length of the growing season and the date of first frost varies considerably, several varieties maturing at different dates are required to meet the several situations. For grain it is important to have a variety that will ripen with a high degree of certainty and at the same time give a good yield. These are therefore the objectives in corn.

Nothing so far has been said regarding the accomplishments of this breeding program to date. Space does not permit of a statement of the improvement that has been made with each of the crops. The aim has been to call attention to the needs with the different crops and to outline the objectives towards which our breeding program is directed. It can be said, however, that in line with these objectives, new varieties of all the crops mentioned have been produced.

Making Rope Halters

by W. Kalbfleisch



By using a good grade of coil rope, halters can be made which are superior to ready-made halters. By making a halter a person can accomplish two things; namely, the making of an "eye splice" which can often be used in rope work, and the making of a halter which is a handy piece of barn equipment.

Length and Size of Rope.

For medium sized horses and large cattle the dimensions for an adjustable halter are as follows:— total length of rope, 14 feet; size, $\frac{1}{2}$ inch; total length of eye loop, 7 inches; K to J, 12 inches; and loop at J, 4 inches. For smaller animals use a $\frac{3}{8}$ inch rope having a total length of 12 feet.

Making an Eye Splice.

To make the eye take one end of the rope, unwind four turns and hold the rope in the same manner as indicated in the first diagram, W. Notice that the three strands, A, B and C are laid out in a natural fashion with the rear strand B, in the centre of the three strands. Allowing about $3\frac{1}{2}$ inches for the loop, put A through a strand in the main part of the rope. Now put B and C under successive strands in the main rope as illustrated in diagram X. Pull the strands up to form the loop. Important—next, turn the rope upside down as illustrated in diagram Y.

To indicate the next step, guide strings have been used

in the photographed illustration. Strand A follows the string to R. Notice that A comes out from under the dark strand in the rope lettered with a small v — then it goes over the top of this strand, and under the next strand of the main rope lettered with a small x, to position R. (Read the last sentence again; it is the most important step in making a halter.) Strands B and C follow the same rule as A. They come out under a strand in the main rope, go over that same strand and under the next strand in the main rope.

The operation explained above is called "tucking" and it is continued until the strings are completely woven into the rope. After the second tuck, half of the strand can be trimmed off (see diagram Z) so the splice tapers into the main rope. Four complete 'tucks' will hold all the load that the rope will stand.

Making the Small Loop.

To place the loop J in the proper place, measure off 16 inches for the nose piece from the point K. At this point in the main rope, lift up a strand and pull the "eye" that has been made through under it. This is illustrated in figure G. Push the loop down until it has a hole about 1 inch in diameter. Now take the long end of the rope and run it under a strand in the nose piece, by following the string from I to H.

The job is finished. Run the main rope through the "eye", then the loop and the halter are ready for use. It is an easy job to make a halter — follow the illustration carefully and it won't be long before the complete halter can be made in 20 minutes.

POINTERS ON WINTER CARE OF CARS AND TRUCKS

1. Use light weight oil in the crankcase in cold weather. For cars and trucks use 10W oil in temperatures as low as 10° F., and 10W oil plus 2 cups of kerosene in temperatures that are more severe.
2. Advance the charging rate of the generator until it keeps the battery well charged. Set to a 25 amp. rate if necessary.
3. Cover the radiator of the car with a piece of cardboard until it runs at a temperature of at least 165°F.
4. Clean the spark plugs and adjust to 30 thousandths.
5. Set the distributor points to 20 thousandths.
6. If the points are not in perfect condition, buy new points and a condenser.
7. When using light lubricating oil, check the level of the oil frequently.
8. In below-zero weather use SAE 80 oil plus 10% kerosene in the transmission and rear axle.
9. Change the oil in the engine frequently during the winter season to remove water and prevent subsequent oil pump troubles.

Give The Dairy Calf A Healthy Start In Life

by A. R. Ness

DAIRY calves from birth on are fed and reared in a number of different ways. Many of them unfortunately do not get a very good start in life. The ability to breed, feed and raise calves successfully is of great importance in keeping the mature milk-producing herd up to strength. These calves will grow and develop into the cows to take the place of those cows which for one reason or another are sold or discarded from the herd. On the average, four to five calves need to be selected and raised each year for each herd of twenty milking cows. That means from 20 to 25% replacement takes place annually in the milking herd. Frequently these replacements are purchased but most dairymen have found out from their own experience that it is easier to maintain a healthy, disease-free herd when they breed and raise their own calves.

Condition of Cow Important

Good feeding practice really starts with the in-calf or pregnant cow. An abundance of green pasture in the summer, and good quality legume hay with some grain, depending on the condition of the cow, in the winter will supply the needs of the cow and her unborn calf. There is no need to keep the cow thin, as was once the practice in order to avoid milk fever, if sufficient calcium is supplied previous to calving. The legume hays are rich in calcium and supplementary calcium can be easily and cheaply supplied by feeding ground limestone. It is actually more difficult to raise calves from cows that have been poorly fed than from cows that have been liberally fed in preparation for their next year's work. The health and tone of the cow is safeguarded if at calving time all heavy feeds are replaced in her diet with such mildly laxative feeds as bran and a little linseed oilmeal.

Greater chances of everything going well at birth and of insuring future well-being can be expected if a clean, disinfected and well-bedded box stall is provided. Many calves are born in the gutter, but those that thrive and do well do so in spite of, rather than because of the place of birth. The exact date when the cow is due to calve should be known by the attendant, as it will allow him to watch carefully and give assistance, if necessary.

Care After Birth

When the calf is born the mucus and any other material should be removed from the mouth and nostrils. It may be necessary in certain cases to help the calf to start breathing. This can be done by means of several sharp slaps on the chest, or by compressing and relaxing the chest wall with the hands. In most cases the calf will be licked dry by the cow, but when the mother is slow in caring for the calf it should be wiped dry by hand, using



Well grown fall born calves at pasture the following summer.

a bran bag or other cloth. A strong robust calf will be on its feet and nursing within one or two hours. Some help should be given to ensure this early feed. It is very important in order to get a proper start in life to make sure that the calf gets the first milk or *colostrum*. This first milk provided by nature acts as a laxative and cleans out the digestive tract at the very start; it is rich in vitamin A which promotes growth and protects the calf against early infections.

Should the Calf Nurse?

Many discussions are carried on as to whether or not the calf should be allowed to nurse or be fed by the pail. This is probably not so very important, so long as the calf receives its own mother's milk. Most dairy men leave the calf with the cow for at least the first day. Thereafter, it should continue to be fed its own mother's milk at least until such time as the milk is fit for human consumption, or about one week. The quantity of milk fed at this time is important. If the cow is a good milker, the tendency is to give it to the calf, which may over-tax the digestive organs of the young animal. It is much better to under-feed than to run the risk of over-feeding, especially during the first week. There is a rather safe rule that can be followed which says to feed one pound of milk per day for each ten pounds of live weight of calf. Even this rule must be used with good judgment on the part of the feeder. For instance, with milk rich in fat it is well, to feed below rather than up to the quantities prescribed by the rule, at least during the first week.

Housing

Frequently very little provision is made (except on the larger dairy farms) for a calf pen, with the result that the calf is found housed in almost every conceivable type of place in the stable. As a matter of fact, it is not an easy matter to provide satisfactory housing for the young

(Continued on page 21)

Produce More And Better Hatching Eggs

by N. Nikolaiczuk

THE 1941 hatching season is at hand, and the revenue from hatching eggs depends on proper preparation beforehand. It is not yet too late.

A successful poultryman is one who keeps up with the times. The word "efficiency" has also entered the field of hatching egg production. The setting hen was displaced by the small farm incubator, which in its turn was displaced by large-scale incubation. This to a greater degree meets the needs of most poultry raisers as to volume, quality, and cost of chicks. Later the co-operative hatchery was designed to see the greatest return for hatching eggs and the lowest cost for quality chicks. All these progressive steps have been to the financial benefit of the poultryman.

Now, in order that the poultryman may get the most out of these large scale facilities, he must provide a large number of hatchable eggs, and this can only be done if he makes his plans well ahead, and handles his laying stock properly.

Preparing the Laying Stock

It is important that the birds should be kept laying at 50% or over before and during the hatching season, and for this a good laying mash is essential; a commercial breeding mash is even better. A moist mash fed at noon, in a quantity that the birds will clean up in ten minutes, should keep production at a high level and stimulate birds that are out of lay. A breeding mash moistened until it is crumbly will serve the purpose well, but a laying mash, bolstered with the following ingredients, will do just as well: laying mash, 5 parts; alfalfa leaf meal, 1 part; skim-milk or buttermilk, enough to moisten until crumbly.

Oyster shell and grit should always be available. Cod-liver oil is recommended only if thin-shelled eggs are being found. If it is necessary, it can be added to the laying mash by mixing one quart of cod-liver oil in ten pounds of coarsely ground wheat, which should be added to 200 pounds of laying mash.



Better practices result in better hatches.

The Breeding Pen

Tests show that the best results are obtained when not more than 20 females are penned with one Leghorn male, and not more than 15 females to each male of the heavier breeds. If two males are available for a pen of 25 or less females, it is best to shift males daily. Sterility of males is not usual, but it does occur. The active breeding power of males fades with age, and likewise older hens do not lay as many hatchable eggs as do young ones. If undue preference in mating is exhibited by any male, substitutions should be made. Finally, heavy feathering about the vents of either males or females will prevent proper mating, and should be removed.

Gathering the Eggs

Dirty eggs are not suitable for incubation, for they can carry infectious materials and molds into the machine and infect the developing embryos. Dirty eggs will be rejected by the hatchery, with consequent loss to the producer. During the hatching season eggs should be gathered at least four times a day. This prevents soiling, keeps breakages to a minimum, and prevents excessive changes in temperature. If the poultry house is cool, the eggs ought to be kept there so that they may cool rapidly before being stored.

Holding Eggs for Incubation

The most successful hatches are obtained from eggs held prior to incubation at a temperature of from 50° to 55°F. Development of the embryo will begin at a temperature of 69°F (a comfortable room temperature) so eggs should never be stored in any place that may get this warm. A uniform temperature in the holding room is essential, for fluctuations in temperature have a weakening effect on the embryos, which will lead to a poor hatch.

Even under the most favourable temperature conditions during the holding period, however, the length of time the eggs are held is important. Eggs held more than 28 days seldom hatch, but eggs held from 7 to 10 days apparently suffer no harm as far as their hatching power is concerned. This will serve as a guide for shipments to the hatchery. It is a curious fact that a long holding period means a long incubation period. Twenty-day old eggs require from 14 to 18 hours longer to hatch, and this leads to a lack of uniformity in hatching of a particular lot, aside from the poor hatchability of such eggs.

Any cool, odourless, well-ventilated room such as is used to store market eggs will serve as a holding room. High humidity is desirable, for this will retain the natural moisture in the eggs, which is essential to the successful emergence of healthy chicks. If the room is dry, putting sawdust on the floor and sprinkling it with water will keep

(Continued on page 20)

THE NEXT STEP

(Continued from page 3)

to be found in better schools. Unless the youth in the country can enjoy educational advantages at least equal to other classes, farming is likely to be a second-rate occupation. Education must not stop with formal schooling. We need to apply just as much energy and intelligence to the continuous education of the citizen in the years after he has left school—something that has scarcely been attempted. But with the rapid changes that are taking place in the world, accentuated by conditions arising out of the war, it has become all the more necessary.

We have in Canada many experiment and illustration stations; we have agricultural schools and colleges; we have extension departments in all the provinces; we have agricultural societies and junior clubs, Women's Institutes and countless other organizations, great and small. It may be that all these organizations are not being made use of to the extent that they should. Some of them may not be as well known and appreciated as they might be. Certainly there seems to be a lack of "getting together" to unite for a common action. It is sometimes forgotten that the family is still the unit of society and that by specializing all activities with different groups of the community according to age, sex, or supposed special interest, we have overlooked one main factor in rural betterment. There is little doubt that our extension programmes generally could show more imagination and a better appreciation of modern methods.

More attention might well be given to extending and improving the work of the small study or discussion group and supporting them with properly prepared material, so that their activities do not "bog down" or vanish in futility. Much more of our literature could be put out in a form that could be used by such groups, the organization and operation of which constitute a modern weapon that can be used by farmers to study and to understand their own problems for themselves. Properly supported and intelligently conducted, they afford facilities for farmers as a group to learn to play a more important part in managing their own affairs and to take a more effective

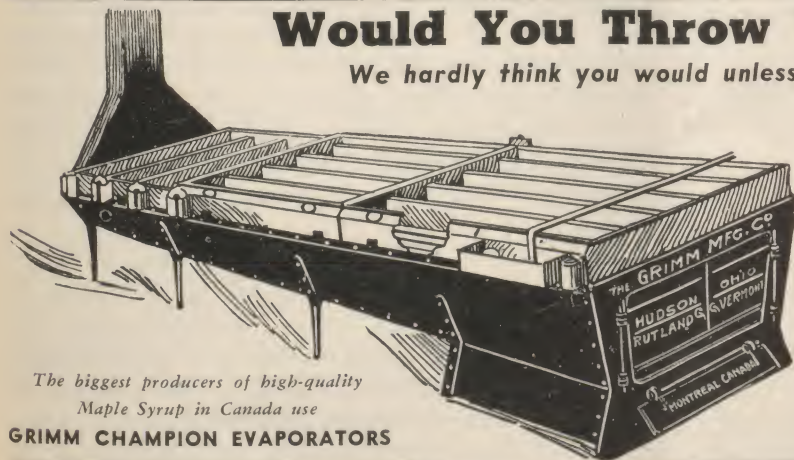
place in the life of the country generally.

We have already stated that the specialists should be used more and not less. They have a contribution to make and it is an important one. Our government departments, our colleges, our educational organizations can all assist in solving technical problems, in supplying information, in extending markets, in assisting with legislation, and in many other ways. But farmers should be encouraged to work out their own problems in company with other producing groups. Our aim should not be dependence, but independence.

The time has come for a great, concerted nation-wide effort. There is an undoubted lack of carefully integrated long distance programmes. We do not mean by this that any perfect plan can be made by any individual or group of individuals and put into effect overnight. Russia attempted such an educational "blitzkrieg" backed by ample funds and all the vast power of the State, with the avowed intent of clearing away at one stroke one of the worst inheritances of the old régime, that is, illiteracy. But they soon found that "shock tactics" do not work in this field. In our programme we intend to base our activities first of all on the small neighborhood study or discussion club, to multiply the number of such groups, to furnish them with material that they can use to study their own problems for themselves on the basis of the known facts and to endeavour to integrate the work of these many small groups. Finally, we believe that such a programme can only succeed if we can discover and develop the latent leadership material that exists in all communities. That is the "next step" that we must take if our democratic way of life is to survive unimpaired. For in a democracy the centralized rigidity of dictatorial control must be replaced by a diffused leadership, a unity in fundamental objectives, and a system of willing co-operation based on toleration, reason and intelligence. In such a system there must be no closed canon of revealed truth to confine our institutions in a political, social and economic straight jacket. There must rather be a flexibility of programme that automatically adjusts itself to the rapid and cataclysmic changes of these modern days.

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CO-OPERATION AND MARKETING

A page of interest to members of farmers' co-operatives

MARKET COMMENTS

The outstanding change in prices of farm products has been the rise in the price of butter. The price of butter is of particular interest not only on account of the amount of butter produced annually in Quebec running about one hundred million pounds but also because of the influence of the price of butter on the whole dairy farming business. This is important to a province that specializes in dairy farming.

One major reason for the recent marked rise in the price of butter was the very low price prevailing during the past summer. That was the time when the bulk of the butter now selling at the higher price was made. The higher price of butter now prevailing will not add much to the income of the farmer but this higher price is an indicator that the price for next summer's make will be better than that for the previous year.

As this is being written comes news of the pegging of the price of butter at levels prevailing on December 12, 1940. At that time the Montreal price was 34½ cents per pound. This regulated price is over ten cents per pound above that prevailing during the summer months. Other price changes include increases in the price of apples and poultry products.

Trend of Prices

	December 1939	November 1940	December 1940
	(\$)	(\$)	(\$)
LIVE STOCK:			
Steers, good, per cwt.	7.64	7.95	8.18
Cows, good, per cwt.	5.45	5.33	5.50
Cows, common, per cwt.	3.83	3.88	3.95
Canners and Cutters, per cwt.	3.05	3.00	3.05
Veal, good and choice, per cwt.	11.06	11.10	11.05
Veal, common, per cwt.	10.00	9.35	9.80
Lambs, good, per cwt.	10.02	9.63	10.00
Lambs, common, per cwt.	8.02	7.63	8.00
Bacon, hogs, dressed, B.1., per cwt.	12.30	11.13	11.13
ANIMAL PRODUCTS:			
Butter, per lb.	0.28	0.30	0.35
Eggs, Grade A, large, per doz.	0.30	0.45	0.32
Chickens, live, 5 lb. plus, per lb.	0.16	0.14	0.16
Dressed, milk fed, A, per lb.	0.21	0.23	0.24
FRUIT AND VEGETABLES:			
Apples, Quebec, MacIntosh, Extra Fancy, per box	2.05	2.10	2.25
No. 1, per bbl.	4.25	4.00	5.25
Potatoes, Quebec, No. 1, per 75 lb. bag	1.00	0.65	0.65
FEED:			
Bran, per ton	25.50	26.00	28.00
Shorts, per ton	26.50	27.00	27.50
Oil meal, per ton	(35%) 39.00	(39%) 35.00	(39%) 37.00

WHAT IS A CREDIT UNION?

"A Credit Union is a union of its members for the purpose of making it possible for them to take care of their own credit problems at reasonable rates. It is very definitely not an investment union. It is not an agency to supply members of a group who have appreciable capital with the maximum safe return on their investment. It is not interested primarily in money; it is interested in men and women, in service to men and women. A Credit Union is better off without the money of any member who is thinking of the Credit Union only in terms of excessive returns. On the other hand the Credit Union is not merely an easy place to get money. It is an organization for its members to save money and, when the necessity arises, to borrow money without paying undue interest charges."

Chicago Co-operative Services, News Service.

WHY NOT GET TOGETHER?

Watabeag, Ontario (about 35 miles from Timmins), is in a farming area still in the pioneering stage of development. Some of the farms are about 160 acres, more are 80 acres, and 35 to 40 acres is generally all that is under cultivation in any one farm. Most of the owners are working part-time on highway construction. None of these farmers grew enough potatoes, poultry or vegetables to make a shipment to Timmins or elsewhere. There is no local market for everyone grows his own produce. Most of them sell to truckers and have to take the price they are offered. A bag of potatoes that will sell in Timmins for \$1.25 brings the Watabeag farmer only 65-70 cents.

In July 1939 these farmers got to discussing what they could do to help themselves. After the first meeting of twenty-four people only two stuck to the work of finding out what could be done. But in the winter of 1939-40 as a result of the work of these two, five clubs were formed consisting of from five to twelve members each. These clubs wrote to St. Francis-Xavier University for discussion material, and after discussing for some months the idea of forming a Credit Union, they started one in February 1940 which now has 28 members. Without the small loans, \$25-\$30, made to them by the Credit Union, many of the Watabeag farmers could not have put in their crop last spring.

As a result of further discussion a small group started to make shipments of eggs to Kirkland Lake. All the labour involved in packing and selling was done without any charge by one of the members. Then in the spring a larger number of them bought their seeds and seed potatoes co-operatively, getting a quantity discount on the total order.

One of their biggest problems still remained—to cut

down their grocery bill. Last winter they sent a trial order down to a Toronto wholesaler for all the articles of which they could take a case lot among them — cereals, canned goods, dried fruits, and soap. They saved 18-20%, and since they had no overhead expenses this was clear saving.

Now, as a means of providing themselves a regular outlet for their produce they have arranged to make a trial shipment of vegetables to The Consumers Co-operative Society, Timmins. The Consumers Co-operative Society will send down its truck for the produce and take with it an order of groceries for their Buying Club.

This is one way for the farmer and the consumer to come directly in touch with one another with friendliness and confidence. Both groups in this case believe in the group way of meeting difficulties, both have met their common problems—buying credit and groceries by the co-operative method, and each knows that the other desires the benefits of the exchange to go equally to both sides.

From "Connex" the newspaper of the Consumer's Co-operative Society, Timmins, Ont.

KICK THE "T" OUT OF "CAN'T"

Some B. C. miners living in Rossland, and working at the smelter in Trail, B.C. found that the daily bus fare of 40 cents was costing them about 10% of their wages. When there came an announcement that the fare would shortly be raised to 50 cents, they got together to see what could be done to help themselves.

One of them knew something of the co-operative movement, and after much talking over it 15 of them put up \$5.00 each towards a first instalment on a Ford car, which went into operation on three shifts a day. The fare was 30 cents a day.

Everyone scoffed and said it couldn't be done, but at the end of two months there were 40 members and another car was put into operation.

That was in 1932. By the end of 8 months they had 120 members, and 8 cars. By 1938 the membership was 600, and the assets of the society about \$60,000 built up entirely out of income. They now have a garage and a fleet of cars of their own. The last batch of modern cars was driven from Windsor back to Rossland, by the co-operative society's own picked drivers.

So when next you consider tackling one of your community problems, remember that time and again the co-operative method has kicked the "t" out of can't.

DID YOU KNOW—

THAT the co-operative movement sprang in the first place from the stoveside meetings of neighbours?

THAT there are now 810,512 co-operative organisations or societies of all types in the world of which 449,040 are classed as agricultural co-operatives with 65,000,000 members?



FARMERS BORROW ON *Fair* TERMS

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THE WOMEN'S INSTITUTES PAGE

*A section devoted to the activities of the Quebec Institutes
and to matters of interest to them*

BOARD APPROVES WOMEN'S COURSE

At the invitation of the President, Dean Brittain attended a meeting of the Provincial Board of the Institutes held at the Y.W.C.A. in Montreal on Saturday, January 4th, to make any necessary explanations regarding the Short Course in Rural Education which will be held at Macdonald College February 3-14. He advised the delegates that it had been decided to offer the course under the sponsorship of the Institutes mainly because it was realized that they were the best body to make a wise selection of delegates, especially in view of the fact that the number was restricted to twenty. In reply to an inquiry it was stated that the course would embrace all matters affecting the interests of the home and school. It was the intention to use the method of the discussion group as the medium of instruction varied with lectures and demonstrations. In reply to another question it was stated that Women's Institute members would have first choice as candidates but that others up to a maximum of twenty who were sponsored by the Institutes could be accepted.

In regard to the other two courses, young men from 18 to 30 inclusive were eligible, and all expenses for accepted candidates were to be met by the Youth Training Plan. One of the courses was to be comprised of problems of farm mechanics, the other was to consist of an intensive course in farming with emphasis on management to meet the rapidly changing conditions in agriculture. Emphasis was placed on the necessity of getting the applications in at once in order to facilitate the issuing of transportation requisitions by the Youth Training Plan.

Replying to a question regarding the Macdonald College Journal it was stated that the Editorial Board would be glad to devote the Institute page exclusively to the activities of local Institutes, provided the material was forthcoming. The Dean stated that while some Institutes had sent in subscriptions up to 100 per cent of their members, the result of attempting to secure subscriptions through secretaries of societies had, on the whole, proved disappointing. The Board still hoped to continue this practice, as they were averse to adopting the customary practice of using paid agents, but they might be forced to adopt this method in the absence of better results.

CANADA HAS PLENTY OF FOOD

Although Canada has been at war for more than a year, the nation's larder is well stocked with good things to eat, according to a recent survey of food in storage. There

are 358 million bushels of wheat and in addition to this much of the 1940 crop is still on the farms, along with large quantities of beef, pork, eggs, butter and cheese; this year the storage of eggs and cheese is smaller on account of the heavy export to Britain. Nearly 8 million dozen of Canadian eggs alone were exported to Great Britain during the first 9 months of war.

Canada today is showing the world that she is a nation capable of carrying on with man-power, exports of food and war equipment; young aviators are being brought to the larger air stations to finish their training in Canada before being sent to the front.

Besides men, money and food, there is need of supplies of yellow birch logs for veneer wood in aircraft production. Producer-gas can be used as a substitute for gasoline and would not only help conserve foreign exchange but would provide another outlet for forest products. There is an increase in the output of petroleum. The Turner Valley in Alberta is accounting for more than 96% of Canada's production, thus reducing the Dominion's dependence upon foreign sources for supply of crudes.

Leather footwear has increased 2 million pairs more than in 1939.

The placing of large orders for skis, for winter training of Canadian soldiers has created new interest in one of Canada's most popular winter sports. Last year the Dominion Championship meet was held on the slopes of Mount Norquay, in Banff National Park, and attracted 115 competitors including skiers from Montreal, Quebec, Ottawa, Winnipeg, Revelstoke and Vancouver as well as many hundreds of spectators.

Carry on, Canada!

(MRS. J. D. McINTOSH,

forwarded to the Journal by M. E. McCURDY)

Your Demonstrator's Diary for December

Dec. 2-6—Hemmingford.—Sewing Course given. Very interesting group but classes only fairly well attended due to very bad weather conditions. Remodelling problems proved a good subject for wartime.

Dec. 9-12—Ste. Agnes de Dundee.—Sewing Course given. Classes small, due to similar conditions as of the preceding week. Attended meeting of local Women's Institute.

Dec. 16-20—Franklin Centre.—Sewing Course given. Attendance fairly good considering time of year. Ladies present very faithful this week before Christmas.

PARENTS AND CHILDREN

by Mary Avison

This column will welcome comments or questions on the problems it deals with, or on others that arise in every normal home.

OH! BE CAREFUL!

Yesterday I overheard a mother explaining why her four-year old could not go to play at the neighbours,—why he must play alone in his own yard: "You see" she said "he is so interested in automobiles and we are trying to *frighten* him of them."

Today I walked down town behind a three-year old and her mother. At every crossing they stopped, not casually but purposefully, looked left and right, discussed together, as though it were of common interest, the cars that were coming and whether there was time to cross; when both agreed, they walked across the road quietly and unhurriedly, side by side.

Both mothers, with devotion and genuine concern, are seeking the safety of their children, but one looks to the immediate safety of her son, and to her own peace of mind. The other looks to her daughter's safety now and in the years ahead. At the expense of her present freedom, she is constantly on the job. Not wanting a child or a grown-up who will display the stupid panic of a hen when a motor toots, nor the impudent fool-hardiness of a young puppy let off his leash, she is teaching her daughter to know the rules of the road, and to obey them with pride and assurance but without fear. It is scarcely possible to start teaching this too early.

I recall two other occasions: an afternoon meeting from which one mother hurried away early because her twelve-year-old daughter could not light the gas stove to start cooking supper.

"I'm so afraid of fire," she explained "I never let her use matches." And by contrast: a visit to a home where it was the joy and privilege of the youngest child not yet of kindergarten age to strike a match on the kitchen range after lunch and light the cigarettes for daddy and the visitors. I have seen him on more than one occasion, with keen excitement but surprising skill, burn a match through to the end, wetting his finger to hold it by the charred centre till it burned itself out.

This had not been learned through fear, nor through shutting up either the matches or the boy. As soon as he began to show an interest in matches, his mother and father took every opportunity that offered to give satisfaction to that interest. He blew out hundreds of matches; he lighted the fire in the fireplace after daddy had struck the match; he helped select a safe place for the bonfire with rocks around it and watched the effect of the wind; he

learned to feed it carefully; he was taken to see a fence blackened by a fire that got away; he discussed fire engines and played at fire fighting; he learned to make a twist of paper and discovered how slowly it would burn; he was allowed to strike matches whenever he wanted to, *provided* that mother or daddy was present and free to supervise.

This all meant frequent demands on parents' time, patience and ingenuity, but it also meant the security of knowing that sonny need not, and therefore likely would not, experiment, when Mummie's back was turned. All through this training, the emphasis was not on fear which produces panic or paralysis:—"You'll get burned", "You'll set the house on fire", "Daddy'll whip you if you touch the matches",—rather it was on caution which is a compound of knowledge and skill:—"This is the way we do it". "Hold the match out level so that the flame burns away from your hand". "Gravel won't burn so we'll build our bonfire here". "Pour on plenty of water to put out every spark" . . .

Learning how to deal with situations that involve danger is only achieved through a long continuous process that involves patient teaching and plenty of opportunity for practice, that includes a growing responsibility for one's own safety while the safe-guarding supervision becomes less and less obvious, and is gradually but finally withdrawn. It is only possible where parents and children live together and share together the varied experience of living. Perhaps even more important, if it is to be a method of real safety, the training must begin when the child shows the first sign of interest in a dangerous experience. This is as true of climbing trees or cutting with scissors, as it is of using matches or crossing roads. Postponement only increases the risks and puts the strain of constant anxiety on those responsible and of constant nagging restriction and refusal on the child's impulse to grow.

Are you protecting your child now or teaching him to protect himself? Are there places where, in your anxiety to keep him safe you are denying his need for independence and self-reliance? If so, why not make your New Year's Resolution to watch for opportunities through which your child can learn safety and self-reliance?

REGISTER YOUR "LISTENING GROUP"

If you are planning to form a "Listening Group" to take part in the broadcasts, do not neglect to register with the Rural Adult Education Service in Lennoxville. Registration of your group is not compulsory, of course, but all groups who do register will receive, in advance of each broadcast, printed material which will make it much easier to follow the broadcasts and which will give material to help along discussion. The registration fee is only fifty cents—much less than the value of the material that will be sent you—and registration forms will be sent on request by the Rural Adult Education Service, Lennoxville, Que.

How Great Is Your Interest In Foods?

by Margaret S. McCready

A STUDY group composed of women interested in discussing food in relation to health, is drawing to a close at Macdonald High School, and a number of practical points in human feeding have emerged and been recommended for use. Check over the following suggestions and see if you are prepared to put them into practice.

1. The cereals or grains make up a large part of the food of the peoples of the world. They are one of the cheapest and most plentiful sources of starch and protein. Vastly superior 'health protective' values can be obtained from them if the whole or nearly-whole grain is used. Start to-day to add a hot porridge course to your breakfast menu, using rolled oats or flaked wheat or fine meals of either grain. In addition, it is easy to add more protective values to your porridge in the form of wheat germ, mixed in, in small amounts, at the end of the 15 to 30 minutes cooking period.

Watch too, for the appearance on the market of a wheat flour which has in it 75 to 80% of the wheat's original vitamin B-1 value (and other necessary health factors). Its keeping quality is splendid and yet only the coarsest part of the bran has been discarded. This means that a real storehouse of various vitamin and mineral values, removed partially in white flour, will be available to the public. Already a baker's bread made of this new-processed flour is on the market. No increase in the price of this flour is to be allowed.

2. The adequate use of milk and milk products is a problem ever with us. Milk should be considered the cornerstone on which to build the best diet. If food money is scarce, the evaporated tinned milks should be used more, in cooking if not for drinking. At a price of two tall tins for fifteen cents, one is buying milk at a little over nine cents per quart. Sometimes skimmilk or buttermilk can be bought much cheaper than whole milk and sometimes it can be carried away from a dairy for still less. A pound of cheese, such as Canadian Cheddar, at twenty cents per pound, is almost the equivalent of three plus quarts of milk. Much greater use should be made of this "milk product" food, especially if funds are low.

For a quick and average calculation of your family's milk needs, allow one pint per person per day, but remember that it is better if every child has one and one half pints daily; adults might get sufficient for their daily needs from one-half pint. One quart or more is often not more than enough for the rapidly growing and active adolescent.

Establishing the whole-grain porridge habit is an admirable way for parents and children to get milk into their diets. It is easy also, for the adult to learn to drink one cup of milk at luncheon before taking a hot beverage!

3. Because of constant propaganda on the subject, we know that it is wise to establish the habit and taste for some uncooked fruit or vegetable (in the grated form, in sticks, shredded, and in salads). When these are eaten raw a better supply of vitamins and minerals is available to us, especially the vitamin C. On the other hand, cooking makes more nourishment available by breaking down fibrous parts. It releases interesting flavours, also.



Cook vegetables in as little water as possible, and do not throw the water away afterwards.

After vegetables are boiled it is obvious that considerable dissolved vitamins and minerals are lost if the vegetable water is thrown down the sink drain. It is quite possible, in order to obtain best values, to cook using small amounts of water; and plan to use every bit of the remaining juice in sauces, stews, soups and gravies. Better to learn to drink this splendid tonic liquid than to continue to nourish the drain pipe! We might even learn to boil potatoes in their jackets more often and then have no worries about values lost in the cooking water. Losses by this cooking method are negligible.

4. Little encouragement is needed usually to get families interested in using meats, fish and eggs. These are foods with a high flavour value; they are very satisfying and

contribute much to health protection. They are expensive, however, and must not be purchased until an adequate milk supply is assured.

Some emphasis might very well be put on the cheaper varieties of flesh foods. For instance, the glandular organs in general are richer sources of some necessary vitamins than the muscle meats. Pork liver is a rich source of iron and vitamin A, and is usually cheaper than other livers. Try using it once a week in a variety of ways.

Advantage should be taken more regularly of the good values in our legume foods—beans, peas, etc. These, because of their comparatively high protein content, can be called rightly 'meat-sparers'. Their use helps greatly in cutting the meat bills.

If you can establish the eating habits outlined here, you are making a start in the direction of better family health through better feeding. In a short time, new practices become routine, through use.

"After a good dinner one can forgive anybody, even one's own relatives".

HAVE A HEART!

*"The Valentine people are friendly and gay,
And how they get ready for Valentine Day!
So come on and join them—a right festive band,
And go for a visit to Valentine land."*

Dotted at regular intervals through our calendar are special days reminding us that customs survive, sometimes for centuries, long after we have forgotten their origin. They are not meaningless, these holidays, but are inextricably woven into the fabric of our national tradition. When we take time to get a perspective of the annual "holiday chain" we see how timely and how carefully placed each one is, and Valentine Day is no exception. So, let's be ready to welcome it when it arrives.

DECORATING

Whether you're having a Valentine party or not, why not decorate a bit, especially if there are children in the home? Youngsters love envelopes, bags, jars or tins to "put things in." Why not delight them by decorating any one of these and placing it on the breakfast table Valentine morning? An empty cereal box covered with white paper with a letter-sized slit cut in the top makes a grand Valentine post-box, and quite small infants will happily "mail" scraps of paper, old envelopes, or prepared valentines in it. Older children enjoy decorating the boxes themselves. Delightful little valentines can be made from old Christmas cards and gift wrappings; for instance, red cellophane bows tied on silver hearts are lovely. Cut-outs from magazines, especially seed catalogues, coupled with lacy paper doilies, make original and attractive valentines that look almost good enough to eat.

INTERIOR DECORATING

And speaking of eating, there are of course the usual heart-shaped jelly molds and molded salads, or heart-shaped potato or rice rings filled with creamed vegetables.

The cookie tin could stand a little decorating too. Here's a recipe for

Valentine jam-jams:

1/2 cup butter	1 tbsp. cream
1 cup sugar	2 tsp. baking powder
2 eggs	2 1/2 cups sifted cake flour
	1 tsp. vanilla

Cream the butter, add sugar, then beat until light. Add beaten eggs, flavouring and cream. Sift flour and baking powder and add to first mixture. Chill the dough, roll thin, and cut with a heart-shaped cutter. Bake in a hot oven (400°) for 10 or 12 minutes. While the cookies are still warm place two together, with any red jelly spread between.

Afternoon tea hearts:

Roll flakey pastry 1/4 inch thick and cut with a heart-shaped cutter. Chill. Bake in hot oven (450°) for 15 minutes. Lower the temperature to 300° and bake until done. Split when cold, fill with strawberry jam, and cover with frosting.

And if you don't realize that it is February 14th until the day is almost gone, there is still time to make a few heart-shaped sandwiches, or to cut your favourite plain cake with a valentine cutter, slicing each piece in half and filling the centre, sandwich-like, with any red jelly or jam. Cover the top with whipped cream or with pink icing—and presto!—a last-minute Valentine.

"Just so much food and drink should be taken as will restore our powers, not so much as will oppress them".

—Cicero.

"New dishes beget new appetites". —John Ray.

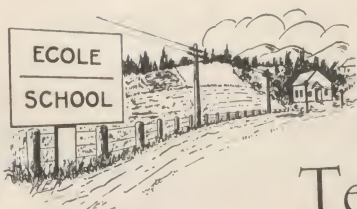
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SCHOOL PROBLEMS AND VIEWPOINTS

Teaching Democracy



THERE appears to be a real danger that in attempting to teach subjects like citizenship in our schools we should defeat the very purpose we have in mind. This though was suggested by an experienced teacher who recently wrote as follows:

"There is a parallel between the teaching of democracy and the teaching of religion in schools.

"Seven years of residence in church schools or schools closely associated with a denomination have led me to the conclusion that the conveyance of religious conviction and the establishment of ethical behaviour are very far from being necessary results of virtually unlimited freedom in the matter of giving religious instruction. My experience has brought the belief that success was achieved only when such instruction was given by a teacher who had two qualifications: (a) he was liked and respected by his pupils; (b) the intensity of his own conviction was apparent in his words and actions. Also, it is believed that the success of such teachers, either in the gaining of adherence to the tenets of a particular denomination and the procuring of behaviour based on these tenets, or in the raising of ethical standards without involving adherence to dogma, lay in the influence of the teacher himself rather than in the type or duration of the instruction imparted.

"If a belief in democracy is more than mere assent, if it is "a way of life" in which the feelings provide a powerful motive force towards the attainment of goals intelligently selected, the parallel with a religious creed is a striking one. This parallel makes me doubtful of the success of an educational programme confined to

(a) the exposition of the mechanisms of democratic government;

(b) the giving of experiences in democratic procedure such as the voting for representatives, the operation of organizations and the conducting of meetings.

"They will be of value only to the extent that they are under the guidance of teachers who themselves are inspired with missionary zeal.

"Such procedures are probably adequate when democracy is unthreatened, when it is sufficient to make and keep its processes habitual. They are inadequate at a time when there is danger of the institution jumping the rails in which it has long moved with an inevitability that has turned out to be merely apparent."

This letter is quoted at length because of the fact that many earnest teachers now realize the real need for instruction in citizenship and some of them favour the direct approach condemned in the above quotation. We quote it,

not only because we believe it represents the correct attitude, but because we believe the writer might have gone even further.

It may be doubted whether democracy or citizenship ever can be taught directly to children in the grades. We can no doubt do more with children by giving them added responsibilities and exercises calculated to develop their interest and ability in handling their own small affairs. But much more can be done by utilizing the capacity for hero-worship which all young people possess to a very high degree. By awakening the admiration of the pupil for the deeds of great men in all fields of human endeavour, we can accomplish indirectly what we could never hope to attain by a frontal attack.

Even university students between the years of 18 and 22 are not, other than in exceptional cases, primarily interested in such things. They are thinking mainly of themselves, of their future careers, of establishing themselves in society, of the possibilities of founding a home, etc. They have never had to exercise the responsibility of citizenship and its problems are therefore beyond their experience. Even with students of this grade, therefore, the problem of awakening interest in such matters is difficult and requires skillful handling. Encouragement to such students to gain experience in the working processes of democracy by developing certain forms of extra-curricular activities may be more fruitful than classroom exercises.

W. H. B.

DEMOCRACY

The slave bowed at the feet of the oriental monarch. "What wouldst thou, oh slave?" asked the King. "Freedom, your Majesty—the right to own my own body and my own soul. For thirty years have I been a slave and followed another's will. I have endured hunger and thirst, carried heavy burdens in all weathers, been cold and burned, beaten with many stripes—and have slept in night-mares upon cold ground. And now my soul cries for freedom."

"Truly, oh slave, hast thou suffered much. Thou shalt have that freedom and be a man. And thereto will I add thirty pieces of gold. What wilt thou do with the gold, my freeman?"

"Please, your Majesty, I will betake myself to the market-place and there purchase for myself a slave!"

"My slave," replied the monarch with a pitying smile, "you will never be a free man. Your travail of soul has taught you nothing."

HAVE YOU A HOME AND SCHOOL ASSOCIATION?

As this is the time to make new resolutions, why not make a cooperative one in your community? Form a Home and School Association and get behind the effort being made to improve education and educational facilities in the Province of Quebec. The Prime Minister, Mr. Godbout, is leading the crusade. During the last three months, he has not appeared in public without emphasizing the need for improvement in education, especially in our rural areas. With such a lead, the least we can do is to get together and show him that his efforts are appreciated.

During the last ten years there has been much agitation for better education in the province. This resulted in a survey being made of the existing conditions. Out of the Survey came certain recommendations. At the time the Survey was published, the more outstanding recommendations were given wide publicity in the Press.

It was at once seen that some machinery was necessary so that the situation might be clarified and the differences ironed out, in order that the recommendations could be put into effect as soon as possible. With that in view, The Quebec Provincial Home and School Council was organized at Macdonald College on June 27, 1940, at which the following officers were elected; President, Dr. W. H. Brittain; Vice-President, Mr. Leslie Buzzell; Secretary, Mr. Herbert Gilbert; Treasurer, Mr. D. E. Pope. The Council has had several subsequent meetings at which much progress has been made. It was felt that the present system of education in the province would never be rectified until parents in large numbers were intelligently informed, and so to that end, the Council has had prepared and printed, in attractive booklet form, a series of questions and answers dealing with the formation and objectives of Home and School Associations. Any individual or group wishing to form a local Home and School Association would be well advised, as a first step, to write for a copy of this booklet to Mrs. Harriet Mitchell, 531 Pine Ave. W., Montreal, who is chairman of a special committee of the Home and School Council. There is also additional literature available, and as well a list of speakers who will address any existing or proposed Home and School Association. If any branch of the Quebec Women's Institute wishes to further this work (and all branches should), additional information may be had from Mrs. R. Thomson, Convener of Education and Better Schools, Abbotsford, Que. She is a director of the Home and School Council and has copies of the booklet of the Council for distribution to Quebec Women's Institute branches.

Parents and teachers are the ones most vitally interested in organizing Home and School Associations and they will find that in so doing they will not only help to further the aims of the Home and School Council, but also help themselves to a better understanding of their own local problems.

THE CHANGING AGRICULTURAL WORLD

(Continued from page 5)

Italy formerly supplied 65 per cent of the world's lemons, but since 1935 the United States has become the leading producer and the source of most of the Canadian supplies. New varieties of the many kinds of fruit, better grading and packing, facilitated by the development of the modern refrigerator car, and fast transportation have made the luxury fruits of thirty years ago part of our every day diet.

TOBACCO PRODUCTION INCREASES

Tobacco production and consumption the world over has increased. There has been a shift to the lighter, mild types of leaf in preference of the dark types. The wide use of cigarettes has resulted in the greater productions of flue cured tobacco. Canada produced in the twenties an average crop of about 22 million pounds. This has been increased in recent years to an average of over 76 million pounds and a record crop of 107 million pounds in 1939. A complete new area has been developed around Joliette in this province when it was found that the soil was suitable for this crop. Last year 4½ millions pounds was their share of Canada's crop, bringing nearly a million dollars to that farming area. In the early twenties the United Kingdom imported about 150 million pounds of which 90 per cent came from the United States. Since that time consumption has increased nearly 65 million pounds to a total of 215 million pounds. The United States supply 74 per cent and Empire countries, namely South Africa, India and Canada, 26 per cent.

These are a few of the striking changes affecting agriculture. Many of them are a result of the last great war and the desire of every country to become self-sufficient. The various departments of Agriculture are meeting these new problems with trained leadership. The Quebec Department of Agriculture is not only helping to solve production problems, but has for years sponsored the great co-operative movement among farmers aimed to group them according to their products and by so doing improve their production methods, lower their costs and improve the marketing. In recent years a markets service has been developed which furnishes information to the producers, the distributors and the consumers. The department has co-operated with the producers in advertising their products and is attempting now to improve trade practices of the retail distributors on a voluntary basis for the benefit of the primary producers.

Business men across Canada have been keenly interested in the agricultural problem. The Chamber of Commerce has financed a comprehensive survey to find ways and means of utilizing farm products for industrial purposes. This report is now being printed. Canadian agriculture has reached a point in its history where everyone should be keenly interested in formulating a rational farm program, which will not only conserve the soil, water, grass and trees, but provide a basis for a fair exchange value for farm products. A balanced agriculture is a permanent agriculture. There never has been a serious depression in cities when farmers were prosperous.

THE QUESTION BOX

Have you any problems that are bothering you? This column is at your disposal. Address your questions to the Editor, Macdonald College, P.Q.

Should I feed cod liver oil to pigs under 100 pounds and how much? G. A.

Answer: The rays of summer sunlight have a seemingly magic power to protect young pigs against rickets, but sunlight loses this power in the fall and winter months, so after the 15th of September it is necessary to feed more source of vitamin D to be sure that bones will develop properly. Cod liver oil will supply this requirement. Four teaspoonfuls of cod liver oil fed to each pig daily from the time he is weaned until he reaches 100 pounds will be satisfactory.

What variety of oats is most satisfactory for the Eastern Townships? C. J.

Answer: No one variety is the best for all conditions in a large section of country. The *Vanguard* and the *Mabel* probably are the two most recommendable oat varieties for the Eastern Townships. The *Vanguard*, resistant to stem rust but susceptible to leaf rust, produces high yields of grain of good quality. The *Mabel*, susceptible to stem rust, but possessing some resistance to leaf rust, is earlier than *Vanguard* by about six days and produces high yields of grain having less hull than the grain of *Vanguard*.

At the Lennoxville Station the *Vanguard* has produced larger yields than has the *Mabel* over a period of three years, while in some of the tests conducted at other points by the Lennoxville Experimental Station, the *Mabel* has been the more productive. It is impossible at present to make a definite statement as to which of these two varieties is the best for the whole of the Eastern Townships. Both are on the list of varieties recommended by the Quebec Seed Board.

PRODUCE MORE AND BETTER HATCHING EGGS

(Continued from page 10)

the air moist. A basement room provides the most favourable environment for holding eggs for hatching purposes. All the precautions mentioned above should be observed, for they contribute much to successful hatching.

At this time of year, when most houses tend to be damp, frequent changing is the only way to keep floor litter dry and clean. Eggs soil much more easily in damp houses. Washing dirty eggs so that they can be used for hatching should never be done. Eggs that have been washed lose an excessive amount of moisture during incubation and many will fail to hatch. Eggs with thin, glossy, or mottled shells also possess poor hatching power, and should not be used for incubation.

Many other faults, from the hatching standpoint, can be avoided by the producer. Poor packing for shipping,

(Concluded on page 21)

CLUB ACTIVITIES INTEREST FARM BOYS

(Ronald MacKechnie, Wyman, Pontiac County, has written to tell us something of club activities in his community. We welcome these comments. We hope others will feel free to write and tell us about their activities, accomplishments and difficulties. We can all benefit by the other fellow's experience. If you have a good picture of your calf send it along too. Incidentally Ronald MacKechnie was a member of the team selected to go to Sherbrooke on two occasions. He has shown his calf several times at the Ottawa Fair and is a real Ayrshire enthusiast. — Ed.)

Dear Prof. Hamilton,

I want to take advantage of the MACDONALD COLLEGE JOURNAL to assure some discussion on calf club matters because I believe the calf club organization is one of the most popular of its kind for junior farmers because all boys like livestock. Our club has its own officers and holds monthly meetings in a member's home, or in a hall. These meetings are well attended and quite often we get a good idea on feeding or showing our calf. Club problems are also discussed but other activities have been limited.

There is much interest attached to being a member of a calf club. The calf one gets is valued at birth and a record of the feed eaten and gains made is recorded each month until the heifer has freshened. By doing this the exact cost of raising a heifer until brought into production is known.

Probably most interest centers at the time the calves are shown. Getting a calf into proper condition and bloom and showing it to the best advantage in the ring is a new and worthwhile experience for most boys. The showmanship classes mean a great deal also. The competitors do their best and learn a lot. This along with the judging contests which help very much in teaching a boy the value of a beast makes the activities interesting and worthwhile.

There are herds which have started from the calf club heifer. I know one herd, for instance, which started that way about eight years ago and now it has increased to about 35 head of pure bred Ayrshires. This herd shows at many of our fairs and carries on R.O.P. work.

To me the greatest advantage of the calf club is learning sportsmanship. Meeting other boys, exchanging thoughts and showing against each other is something that every boy should be thankful for.

RONALD MACKECHNIE.



PRODUCE MORE AND BETTER HATCHING EGGS*(Concluded from page 20)*

rough handling in transport, and chilling, all reduce hatching power, and can be overcome.

The producer is a vital link in the chain of chick production, and his primary consideration is the greatest possible return from his efforts to produce hatching eggs. Greater volume means greater revenue. If payment is made on the basis of hatchability, high quality eggs are of prime importance, and high quality eggs can be produced only if proper management practices are followed. With good eggs the hatchery-man can carry out his part of the job efficiently; the purchaser will receive healthier, stronger, more livable chicks at lower cost, and everyone will benefit.

GIVE THE DAIRY CALF A HEALTHY START IN LIFE*(Continued from page 9)*

calf, especially during the winter. Although expensive housing is not necessary, the calf will thrive best if placed in dry quarters with dry bedding and away from all draughts. It is a very wise precaution to keep each new born calf by itself and not allow it to have contact with other calves for at least one or two weeks. There may be some infection present and the young calf may even die, in which case protection against spread of the trouble to others has been provided. Furthermore, the very bad habit of sucking does not get the same chance to develop. A little later when exercise is more necessary, calves of similar age can be housed in larger pens in small groups of two, three or even four.

Start Grain and Hay Feeding Early

At two weeks of age, the calf should be fed some grain. It will quickly acquire the taste, if the grain is placed in the pail immediately after the milk has been drunk. When the pail has been removed, place a little more grain in a box or manger. Managed in this way, calves penned together will not be as likely to try to suck each other, and they will be encouraged to eat grain at an early age. Equal parts of crushed oats and wheat bran is a suitable and simple mixture for starting the calf on grain. At this age also the calf should be offered some good quality leafy clover or alfalfa hay. Small quantities of grain and hay such as have been suggested provide the bulk required by the growing calf.

Make Changes Carefully

Dairy calves need not necessarily be fat, but should be maintained in a thrifty growing condition. To insure this thrifty state, avoid making sudden changes in the feed. The change from whole milk to skim milk or other substitutes, for instance, requires fully two weeks, substituting a small amount of the new feed for an equal amount of the whole milk until the complete transfer is made. The drink should be fed at the same temperature at each feeding and preferably at body temperature. At all times cleanliness of drinking pails, of mangers and of pens is necessary, as well as careful feeding, to insure a healthy start in life.



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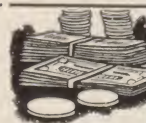
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DESIGNS FOR LEARNING

"Here are Books, and we have brains to read them;
Here is a whole Earth, and a whole Heaven,
And we have eyes to look on them."

—THOMAS CARLYLE.

DESIGN FOR RESOLUTIONS

The long looked-for Tomorrow is here,
The Day awaited with bated breath has arrived.
This is not Yesterday, in which we toiled and sweated,
This is not Today, in which we struggled and worked,
Unhappy and alone in soul.
This is Tomorrow, in which we live
Together.
The Kingdom of God is amongst us,
Can you not see the signs?
You, who foretell the weather,
Who claim to know the future of your crops,
Look at the portents:
A people rising to live together,
To defend democracy, at home, abroad.

Fear not. Resolve on this one thing
This New Year, and all the years to come.
Fear not when we work together
For peace, for health, for happiness,
For all humanity.
From this New Year forward,
We are a great and glorious people,
Who shall deserve the new world;
We are an up and coming society,
Eager for the new life,
Which we shall achieve
For Man.

READY FOR READING

Millions on Wheels by Dewey H. Palmer and Laurence E. Crooks. A Consumers Union book on how to buy, drive and save money on your automobile. As in the case of all material published by the C.U. no generalizations are made. The actual names of products are given and judgment, based on sound principles, passed.

The book is quite exhaustive in its field. It discusses cars, from how they run to how to choose a new car, or a used car. The questions of gasoline, oil, grease, tires, tubes, electrical equipment, and accessories and supplies are all discussed. There are two special chapters, one on repairs and repair service (a highly important one for all drivers), and another on how to drive safely and economically. This last mentioned chapter should well be worth publishing in special pamphlet form. A Consumers Union Edition by Vanguard Press, New York, \$2.50.

**Designs for 60 Small Home from \$2,000. to \$10,000.* by Samuel Glaser, architect. There is a home on a page in this book, showing the architect's plans and details of materials of construction. A good idea of the house may be had from the floor plan and the rough sketches provided. Detailed blueprints may be had from the author architect when desired. The book goes further than mere plans; it discusses things to consider before building, the kinds of houses to suit various pocketbooks and how to finance the house.

The back of the book contains a section on planning data for living activities, a section that is well worth looking

at even if you do not plan to build a place. Published by Coward-McCann, Inc., New York.

To Hold This Soil by Russell Lord. Miscellaneous publication No. 321, U.S. Department of Agriculture. The story of the soil erosion program in the United States; well told and well illustrated. Written by a member of the Soil Conservation Service of the Department of Agriculture.

ADULT EDUCATION NOTES

Education by radio has been a matter of experiment for years. For this winter it will be our major emphasis centred around the Canadian Farm Problems broadcasts—described elsewhere in this issue.

Since the close of the Community Schools preparation for listening group work has been the main interest at the Adult Education centre—with conferences, meetings and institutes, being held in several centres, including Huntingdon, Ormstown, St. Martine, Hemmingford, Bedford, Melbourne Ridge, Lachute, Shawville and Hull.

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Several hundred new books have been loaned by McGill to the eastern Townships Library Association. These will go to the four units of the Book Pool, where they will be distributed to the members of these units. In time, all these books, as well as many others, will pass through every library in the Association. Make use of these books and see that you become a member of your local library and that it joins the Book Pool. One of the most important parts in adult education is self education.

*In the Eastern Townships Book Pool.

STRIPPINGS

by Gordon W. Geddes

In the general assembly at the Ayers Cliff Community School during Education Week, we were fortunate in having Dr. Rothney of Bishop's, Mr. Amaron of Stanstead College and Dr. Brown of the Protestant Committee with us. Considerable discussion took place as to the attitude that could or should be developed in the students to be left with them when they graduated.

Various possibilities were mentioned but it seems to me that Dr. Brown brought out the two most important ones. When asked if the goal of educationists should be to turn out Rhodes scholars in the graduation class, he replied that the important task for education was to fit a man for the job he must do whether it was digging ditches or designing sky-scrapers. That doesn't mean that a man should know nothing but handling a pick and shovel if he digs ditches for a living. In a democracy he has certain responsibilities to assume in return for the privileges he receives. If he is a good ditch-digger and understands democracy and public affairs well enough to discharge his responsibilities properly and take advantage of his privileges, it seems as if he is a well-educated man.

On the other hand, he may have college degrees and an important job and still dodge his responsibilities to the country. Again, he may feel that others must have degrees or their education is inferior to his own. If he has these attitudes, he is far from an educated man no matter how many diplomas he has gained.

The second attitude referred to by Dr. Brown was the one which might have been expected to be most stressed in an Adult School. This was the feeling so many graduates have that their education is finished. No attitude could be more detrimental to progress. We can only learn how to learn in school or college and scratch the surface of the things we need to know. If we could leave this attitude with all of the graduates, it would be almost as good as Rhodes scholars and much more nearly possible.

Even the graduate of an agricultural college who thinks he knows all about farming is apt to get a fall. He can learn much that is useful or essential but there is a great deal he can learn from practical farmers while teaching them many things he has learned. He must learn much by his own experience; his neighbours can give him helpful advice; he may consult others who have specialized in certain branches of agriculture. At times he may even need to disregard the advice of these experts. It has been said that the good farmer gets expert opinions but the successful one must know just how far to put them into practice.

The college-trained farmer will be able to avoid mistakes that might be made by the average farmer but, if he does make one, it is apt to be more costly since he will do many things on a larger scale. The farmer who cannot go to college can learn the most essential parts of the training

by close attention to agricultural bulletins and papers and by seeking advice from agronomes and other experts. In case this gets me into hot water with Macdonald, it might be well to temper it so that I will get only parboiled instead of scalded. While he may learn that way, he can save years in doing it by going to college. Likewise, if it were not for the agricultural colleges, there would be no bulletins, no trained agronomes, no experts and even no college trained neighbour to get occasional advice from.



Principal Errol C. Amaron, M.A., B.D.

was appointed first president of the Eastern Townships Adult Education Council at the organization meeting last June. His wide interest in all phases of community life, his proved capacity for leadership and the responsible position he holds as an educator indicate him as the right choice for this important new office. Under his direction the E.T. A.E.C. will be a growing influence.

TRAVELLING LIBRARY NOTES

We are very pleased to note that many of the rural schools are applying for Travelling Libraries for their classrooms. Since the schools opened in September we have sent boxes to the following places:

Abbotsford, Bourlamaque, Brookbury, Crabtree Mills, Escuminac, Fort Coulonge, Grand'mere, Kenogami, Lachine High School, L'Anse a Brilliant, Loretteville, Murrell's School (Shawville), Peninsula, Roxton Falls, Shawbridge Boys' Farm and Training School, Shawville High School, Sherbrooke High School, Strathmore, Val d'Or.

We should like to see many more of our books going to the rural districts, where they are so much needed and appreciated.

Recently we sent out a Library made up almost entirely of books on the arts to a study club in Asbestos. We shall look forward to a wider interest in reading when the busy Christmas season is past.

THE LISTENING GROUP LEADERS CONFERENCE

The first Listening Group Leaders Conference to be held in Canada has passed into history. It met at Macdonald College and proved to be a most stimulating experience for all of those taking part. Certainly the staff enjoyed the experience thoroughly and the students gave every evidence of interest and enthusiasm, which increased as the conference proceeded. The method of presenting ideas and factual material by means of well planned discussions instead of by lectures received a thorough test. The method used exhibited several important advantages over the one usually employed. Not the least of these advantages was the greater alertness and interest on the part of the members, who took part freely in the discussions and often contributed facts and ideas of real value. No one was bored, because each had his own part to play. Each had something to do. His part was not just to sit back while someone did something for him.

Discussion Outlines Prove their Value

For the past year a small group at the College had been working to determine the best way of presenting material to adults in rural districts. A "Rural Problems Club" organized at the College, and other groups in the country, served as our laboratory. The project was undertaken as a scientific investigation; various experiments were tried and the results noted and embodied in further experiments. Gradually a plan of procedure that stimulated the maximum effort and interest on the part of the student was evolved. Carefully prepared outlines were the first essential, and, with the help and criticism of leading authorities in different parts of Canada, a series of discussion outlines dealing with the economic problems of the Canadian farmer was worked out. These problems proved to be very well adapted to the discussion method. This particular series was prepared especially for the use of group leaders, though a large proportion of the ordinary members could use it to advantage. For purely production problems dealing with matters of proved facts, an outline combining the "discussion" with the "teaching" method was found to be more suitable. A number of typical outlines along the foregoing lines were prepared and ready for the conference. These outlines, while accurate and thorough, are free from long words and scientific "jargon".

The adequacy of these prepared outlines was tested. Those who prepared them did not think they were perfect. They represented a novel presentation which had previously received only a limited trial. The results lead us to believe that changes in detail can be made to advantage in many cases. But, as a means of stimulating active, constructive discussion along definite lines on the basis of the known facts, the outlines proved their worth. Certainly, when compared with the use of ordinary bulletins and pamphlets, however well written, or with the sketchy outlines that have sometimes been used, they proved themselves superior—not that such outlines displace books, pamphlets and bulletins.

On the contrary, they only stimulate their more extensive examination and study.

Radio Plays its Part

Finally, the place of the radio in enhancing the value of the discussions seems to be proved. The sample broadcast supplied us by the C.B.C. represented a satisfactory dramatization of the subject based on the basic material supplied. It was worked out with skill and understanding and reflects credit upon Messrs. Shugg and Morrison and their co-workers who prepared it. They succeeded very well in working in all the facts contained in the original material. The dialogue was listened to with every evidence of interest and, after hearing it, the listeners broke up into small groups and carried on with the discussion almost as if it were part of the broadcast.

The Model Listening Group staged by the students themselves on the last day of the conference demonstrated that they had taken hold of the instruction given in a practical way. The leader selected by the conference introduced the subject most acceptably. Then the broadcast was heard. Following this the 26 present broke up into three groups for discussion under a group leader and a secretary. Following the discussion the groups merged; each secretary presented the conclusions of his group and the leader then summed up. This programme was carried through with efficiency and precision.

Broadcasts Begin this Month

The whole plan represented a combined effort between scientists, educationists and practical farmers such as has never before been undertaken in this country. Those taking part went home with the intention of organizing a series of Radio Institutes in their respective districts. These Institutes will be attended by selected individuals who will secure the instruction necessary for them to become effective leaders for small groups of neighbours who will meet in their own homes to follow the series of broadcasts which will commence on January 21st. Each of these groups will follow the methods learned at the Macdonald College conference, and each will be provided with an outline appropriate to each broadcast.

All those who promoted this conference agreed that it was an experiment of great significance and promise which might well be extended to promote the study of many other things besides farm problems—citizenship, public health, our educational system, and many others. Such a programme would not require a great deal more effort than we are expending now—only it would be a coordinated effort. It would not require any new organizations, but it would require an integration of existing activities. It is a programme that would not require the expenditure of large sums of money; it only means that money already being spent would contribute to the achievement of a uniform plan. In such a programme the radio will play a large and important part.



DEPARTMENT OF AGRICULTURE

*Activities, Plans and Policies of the Quebec
Department of Agriculture*

Farmers Urged to Grow More Alfalfa

The Field Husbandry Branch is offering an incentive to the farmers of the province to grow more alfalfa in those districts where soil and climatic conditions are favourable for this crop. The Department wants to prove to the farmers that having more alfalfa hay to feed to live stock will pay dividends in better animals, and it is also desired to organize farmers in certain parts of the province into groups for the sale of alfalfa hay and alfalfa meal.

The number of farmers in each district who may take advantage of this offer will be decided by the district agronomer. A satisfactorily drained farm and suitable fertility will be taken into account in making the decision. The help offered is as follows: as long as at least 3 acres of alfalfa are seeded, the Department, on receipt of \$5.00 from the farmer, will furnish the necessary seed and nitrogen cultures.

The district agronomer will report on the farm on which alfalfa is to be grown under this plan, listing the probable area to be seeded, the kind of crop grown the previous year, drainage conditions, quantity of chemical fertilizer used per acre on the farm, type of soil and kind of nurse crop which will be used. Each farmer who intends to take advantage of the offer must apply on a form which can be obtained from the agronomer.

The Export Market Demands Good Hogs

The future of the export end of the bacon hog industry here depends on the quality of the Wiltshires now being shipped to Great Britain. The record of the gradings in 1940 shows that only a little over a quarter of all hogs marketed in Canada last year made the A grade, and we will need to increase the number in this grade if the quality of sides for export to Great Britain is to be kept up.

More attention to good feeding practices, and marketing at correct weights, will help to improve the situation. Many hogs which graded B might have been A's if they had not been underfinished or overfinished, or if they had been brought to market at from 190 to 210 pounds. Hogs of this weight yield carcasses weighing from 140 to 170 pounds, and this is the kind that produce sizeable Wiltshires.

British buyers prefer the sizeable weights—55 to 65 pound sides. If we can prove that we can raise hogs which will yield the type, size, and quality of Wiltshire sides which the English people like, we should have little difficulty in holding the British market after the war.

Facts About Carcass Grading

The first step in carcass grading is to see that the hogs are properly tattooed. This is done by drovers or shippers at the shipping points, or at the stock yards or packers' yards if the animals are delivered direct to these points. In either case it is the farmer's right to insist that the shipper or his agent furnish a correct record showing (a) the farmer's name and address; (b) the number of hogs; (c) the tattoo number or other identification.

The farmer should also see that he gets a statement from the shipper, sales agency or packer showing the following information: the official carcass grading; the weight of the carcasses; the price per 100 pounds; premiums and deductions due to grade; any other deductions such as freight, trucking, and commission; and the net amount of the settlement.

Carcass grading naturally involves some delay but not usually more than one day in issuing settlements as compared with live grading. Hogs arriving by truck are often carcass graded and paid for on the same day. An advance payment can usually be arranged for with the buyer. The grader issues the official grading reports immediately after slaughter.

The weight which is used as a basis of settlement is a matter entirely separate from grading; hogs may be sold on live weight and carcass grade or on carcass weight and carcass grade. This is a matter to be arranged between the seller and the buyer though many buyers will now purchase hogs on a dressed weight only. It is to the advantage of the producer to sell on a dressed weight, for by doing so he gets credit for every pound of pork his hogs yield.

A bulletin giving information on this subject may be obtained by writing to the Publicity and Extension Division, Department of Agriculture, Ottawa.

The Farm Census

Have you sent in your report on the number of cattle, hogs, sheep, hens and turkeys on your farm? If not, the Department asks you to do so without delay. This information is urgently needed by the Bureau of Statistics so that a census of stock on farms can be prepared for the use of the officials of the Department of Agriculture. In planning measures to relate our farm production to war-time needs it is important that accurate information concerning the amount of livestock, etc. on the farms in Quebec be known, and your co-operation in getting this information is needed.

OUR TAX METHOD HURTS SMALL OWNERSHIP

Under the hammer of war people suddenly come to accept certain of the ideas at which they sneered in the more comfortable days of peace. Nothing is more interesting, from the decentralist point of view, than the plans already forecast for the re-building of English cities when the bomb has done its work.

It is probable that concentration of population will be prohibited by prohibiting concentration of industry. It is realized that the industrial city is an un-employment trap in peace-time and a death trap in war-time. It is reported that a policy of decentralization will be brought in by the government with a system of taxation as one of the prominent means. The idea already had many little-heeded champions in England.

Our Tax System

It has frequently been pointed out that here in this country the system of taxation acts against the land-owner. The small farmer owning land, stock, and buildings, the whole of which brings him in \$400 or \$500 a year in cash, has to pay a considerable municipal tax. A salaried worker in the neighbourhood with an annual income of say \$1800 contributes far less to municipal revenues than the property-holder does.

Small property is penalized. Fewer people are encouraged to own small property. The rate of taxation for those who hang on has to go up in order to meet municipal demands.

Some Figures

H. S. Arkell brought out some points along this line in his talk at the recent annual meeting of the New Brunswick Herd Improvement Council. He said: "We err in our understanding of the farm position if we fail to remember the uncontrollable costs. First there are the municipal taxes. A neighbour of ours on the highway pays \$2200 on 600 acres of land. On our own land, 210 acres, off the highway, we pay \$486.75. These are tidy little sums to set against the revenue from milk or cheese or steers or eggs. Then there are interest and insurance rates, telephone charges, dentist, medical and legal fees.

Medical Costs

"Forty years ago a rural doctor charged \$3.00 and \$5.00 for childbirth and attendance. Let me ask how have farm revenues increased to meet the hospital and medical fees that are charged today? Then there are freight rates and labour wages.

"A neighbour of mine told me that it took the revenue this summer from 11 cows to pay for his hired man. How many cows can you keep on a 100 acre farm? Then there are goods costs—shingles, paint, plows, binders, fencing material, clothing, furniture, hardware. If I could buy wholesale instead of retail I could get a third, a half and more off the list price."

(From the Maritime Co-operator)

QUEBEC BREEDER HONORED

Gilbert E. Arnold, Grenville, Que. was elected president of the Canadian Percheron Horse Breeders Association at the Annual Meeting held in the Mount Royal Hotel. The meeting which was well attended expressed considerable enthusiasm over the horse situation. It seemed to be the general feeling among those present that more study should be given to the type of horse produced and more care taken in the selection of sires.

Premier Godbout was the guest speaker at the banquet. He expressed his confidence in the farmer and in his ability to meet changed conditions resulting from the war. Many changes were taking place among which was the introduction of mechanized machinery. "I am not afraid of tractors" he emphasized, "and I do believe the horse breeders can meet the competition that will come from them. Breed better horses, eradicate the inferior animals, and be prepared for a considerable expansion of the horse breeding industry when the war is over" declared the Premier in summing up his inspiring message.

There is no fruit richer in vitamin and mineral content than the Canadian apple. Start the day right with a glass of Canadian apple juice.

Have Clean Wool for the 1941 Clip

Wool naturally grows clean on the sheep's back. Any dirt that gets into the fleece is due to faulty feeding racks or careless or improper methods of feeding sheep. In the case of farm flocks, chaff and seeds accumulate about the neck and shoulders and along the back. Some flocks are allowed to feed from a stack. This usually produces a dirty and chaffy fleece that has to be skirted very severely for seedy and chaffy portions. Other farmers do not pen their sheep away, when throwing down straw for bedding or hay for feeding. Such flocks are also sure to carry a heavy amount of seeds and chaff. Where the open top or slatted type of feeding rack is used, seeds and chaff fall down on the heads, necks and shoulders of the sheep while feeding.

Farm flocks of sheep, if their fleeces are left clean, produce wool that is most in demand for military purposes. Reasonable care in keeping the flock away from straw stacks, closing up the top of upper sides of feeding racks and keeping the sheep away from hay or straw when it is being thrown from the loft or forked to feeding racks will remove the chances for dirt into the fleece. Next spring after shearing, fleeces that are clean when presented for grading will not need to be skirted and loss from reject wool will be prevented.

BEST CHEESE EXHIBITION EVER HELD

Five hundred and sixty-three cheeses were exhibited at the National Exhibition at Belleville last month, and the judges had no easy task in deciding how to award the prizes. Most of the awards went to competitors from Ontario, but Quebec placed first in four classes.

Quality was higher this year than ever before, in the opinion of the judges; a general improvement in flavor and texture was very evident. There is still room for improvement in finish, however.

Prize winners from Quebec included:—

Factory cheese, white, September: 1. Henri Bilodeau, Roberval; 2. B. Laramee, Yamaska; 3. J. Dube, Rimouski.

September coloured: 1. H. St. Denis, Ormstown; 2. J. Dube, Rimouski.

October white: 1. J. Dube, Rimouski; 2. L. Houle, Roberval; 3. H. Bilodeau, Roberval.

October coloured: 1. H. St. Denis, Ormstown.

Trophy for highest scoring cheese from Quebec: H. Bilodeau, Roberval—97.9.

A HANDY ACCOUNT BOOK

Farming these days is more than ever a business proposition, and the farmer must know how he stands with regard to every item connected with his farm. He does not require an extensive knowledge of accounting, but he should keep some sort of record of his operations.

A handy account book may be obtained from the Publications Branch, Department of Agriculture, Quebec. It covers all the necessary points and a record of all transactions can often be made in less than an hour each week.

Why not send for one and start using it now? The first of the year is as good a time as any, and the winter is the best time to sit down and make a detailed investigation of the state of your business—past, present, and future.

McIntosh Trees are Popular

Apple trees were the largest item in sales of nursery stock by commercial nurseries last year; 392,158 trees were sold for \$101,855. McIntosh trees made up 30% of all apple trees sold, but sales of other well-known varieties such as Duchess, Melba, Yellow Transparent, Fameuse, Lobo, Wealthy, Cortland, Delicious and Spy were well maintained. Yellow Transparent and Melba were the most popular early varieties. Wealthy led the list of fall apples with Fameuse second in quantity of trees sold. The most popular winter varieties were McIntosh, Spy, Delicious and Cortland. Osman and Dolga were the best selling varieties of crab apples.

British Buying Condensed Milk

While no agreement between the British Ministry of Food and the Canadian Government has as yet been entered into concerning evaporated or condensed milk for shipment after March 31, 1941, the Ministry has expressed its willingness to buy 1,000,000 cases, according to Hon. James G. Gardiner, Dominion Minister of Agriculture.

At the latter part of June, 1940, an agreement was reached between the British Ministry of Food and the Government of Canada whereby Canada was to sell to the Ministry 300,000 cases of evaporated milk (48 one-pound tins per case) at \$3.75 per case on board ship at Canadian seaboard.

In the latter part of September arrangements were completed for supplying the Ministry with an additional 150,000 cases and since then a third agreement has been entered into, under which further shipments are to be made before 31st March, 1941.

On the Economy of Poultry

Most farmers do not keep cost records. But that fact does not prevent them from wondering which of their enterprises are the most profitable. That is good business sense. The following information was released in the report of the Iowa Farm Business Association as a summary for the past seven years:

For every \$100. worth of feed (market prices) fed to farm livestock, these returns were realized—chickens, \$178; hogs, \$145; dairy cattle, \$122; Beef cattle, \$117. The feed and produce prices in comparison are not unlike our own in Quebec.

Quebec Cattle Qualify in R.O.P.

Two hundred and twenty-two Ayreshires qualified in the R.O.P. during December, 99 in the 365 day division and 123 in the honour roll or 305 day division.

Quebec owners whose cattle qualified included Jos. P. Beauchemin, Vercheres, the Trappist Fathers, Village des Peres, Maurice S. B. Carrier, Arthabaska, Macdonald College, Ste. Anne de Bellevue, Institut Agricole Belge du Canada, Oka, P. D. McArthur, Howick, and the School of Agriculture, Ste. Anne de la Pocatiere.

Buy Nursery Stock from Licensed Dealers

No one may operate a nursery, or sell nursery stock in Quebec, without a license. Good for one year, the licenses are issued without charge by the Department. The object of requiring a license to raise or sell nursery stock is to protect the farmer and make sure that any nursery stock he may buy comes from a dependable source. The value of this method of protection will be increased if all purchasers of nursery stock make sure that they are buying from a licensed dealer.



THE COLLEGE PAGE

News of the College — Staff, Students, Graduates

EXAM WEEK

As this issue of the Journal goes into the mail bags most of our students will be in the throes of examination—trying to remember and put on paper the facts that were presented to them in lectures during the past three months, and recalling the results of experiments carried out in the laboratories.

Preparation for examinations is the chief occupation after the holidays, and this year only one short week elapsed between the time the college re-opened and the start of exams, although a few days of extra time were available before the holidays when the college closed early on account of the prevalence of "grippe." Lights burn far into the night in each residence and the only people who go about without a preoccupied look are the members of the staff.

C.O.T.C.

Twenty members of the Macdonald C.O.T.C. sat for the first examination just before Christmas. This is known as the "common to all arms" paper and is written by all cadets, regardless of what branch of the service each will specialize in during the second part of the course. All cadets at Macdonald will take further training in infantry work, for facilities for training specialists in signalling, artillery, etc. are not yet available here.

Before being granted his certificate each cadet will write a second paper on infantry fighting and undergo a practical examination to demonstrate his knowledge of drill, and his ability to command a squad of men.

SHORT COURSES

In addition to preparing for the three short courses to be given next month, details of which you will find elsewhere in this issue, the members of the staff are making tentative plans for still another, to be put on some time in March if all goes well. This will be a "refresher" course in general agricultural practice for agronomes, though it is likely that attendance will not be restricted to members of the agronomic service. We will publish further information about this course just as soon as definite arrangements have been made.

ALUMNI NOTES

Dorothy Pritchard, Teachers '36, has specialized in work in rural districts, and is also working toward a B.A. from Queen's. She was elected a member of the executive at the October convention at the P. A. P. T.

* * *

H. D. Long, a partial student in entomology during 1937-8 and 1938-9 has recently been appointed Provincial Forester for Prince Edward Island. He has a B.Sc. in Forestry from U.N.B., obtained before he came to Macdonald.

* * *

John Gorham, '39, is in the Royal Air Force, stationed at Toronto. Before enlisting he was at the Experiment Station at Fredericton.

* * *

Angus Rose, who spent two years at Macdonald, 1937-8 and 1938-9, is married, and is farming at Stewiacke, N.S. He was out to see us this summer and his hair is as red as ever.

* * *

R. A. Smith, Teachers '36, is overseas with the Hastings Regiment. He taught for a year or two after graduating and then went to Queens to work for a degree, but gave up his studies to enlist.

* * *

Ralph Edwards, Dip '38, is secretary of his local agricultural society, Ralph is also a graduate of the course in cooperation.

* * *

Ann Franklin, B.H.S. '36, got her student training at the Children's Memorial Hospital and then took a business course. She is now back at the college as secretary to Miss McCready.

* * *

John Carlyle, '38, is running a dairy business in Vancouver. He was married in Montreal last month to Libby Carswell, Homemakers '37.

* * *

E. W. Chipman, '39, was, when last heard of, working for the United Fruit Growers in Guatemala.

* * *

Bob MacDuff, Teachers '38, was appointed by the Montreal School Board on graduation, and when he enlisted was Principal of Cartierville School. He is now an officer in the Black Watch, waiting to go overseas.





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